

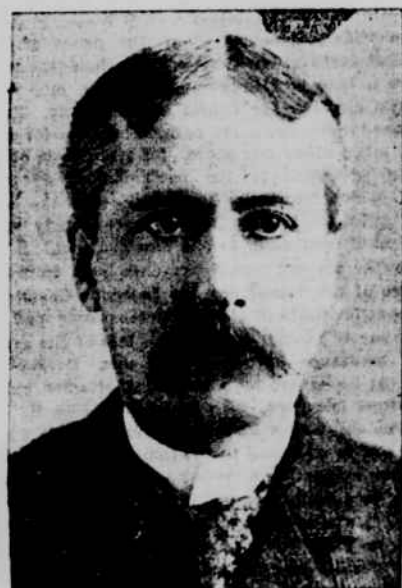
FORECASTING THE WEATHER.

A NATIONAL BUREAU WHICH RENDERS GREAT PRACTICAL SERVICE.

ITS ORGANIZATION AND HISTORY—METHODS AND PERSONNEL—ONCE UNDER THE MANAGEMENT OF THE WAR DEPARTMENT—NOW CONDUCTED BY CIVILIANS—THE PRESENT CHIEF.

One of the most important discoveries ever made in regard to the weather was Benjamin Franklin's, that a northeasterly storm came from the southwest. Two other Americans early in the present century helped to develop the theory that a storm is a system of winds, blowing spirally inward into a large, approximately circular region where the barometer reads lower than elsewhere. The work of these two men, Redfield and Espy, was handsomely supplemented by the researches of their compatriots, Blodget and Maury, and by Reid, Piddington, Dove and Buys Ballot, foreign scientists.

It was also discovered that although the storms of certain seasons and localities were more intense than those of other times and places, they all had a movement in accordance with laws, and could therefore be made the



WILLIS L. MOORE.

Chief of the United States Weather Bureau.

subject of prediction. If information were only obtained promptly enough from the part of the country where they first showed themselves. Not until the electric telegraph came into existence, however, was it possible to collect simultaneous reports of the state of the weather at widely separated points and properly digest them.

For nearly twenty years prior to the Civil War Professor Henry, of the Smithsonian Institution, in Washington, endeavored to have the business of observation and forecasting undertaken by the Federal Government, but without success. In 1870, however, Congress authorized the establishment of such a service, and intrusted it to the War Department. At that time it was privately known that Colonel Albert J. Myer, who was at the head of the Signal Corps of the Army, was anxious to attempt the organization and conduct of the work, and he was therefore authorized by the Grant Administration to do so.

Colonel Myer, who just before his death in 1889 was promoted to the rank of brigadier-general, was not a scientific man himself, but he had rare executive ability and enthusiasm, and he made a success of the Bureau from the very outset. To perform the essential and critical task of making the daily forecasts he selected Cleveland Abbe, a well-educated astronomer and meteorologist, who had for months been making predictions at Cincinnati based on telegrams received at that point. Professor Abbe did all of the work of forecasting for the first few years, although General Myer got the credit. The latter was popularly known as "Old Probabilities."

A special school was started near Washington at that time for the half-dozen or more lieutenants detached from the Army and assigned to duty in the Signal Corps. Professor Abbe delivered lectures there, and so did other civilian meteorologists. Professor Elias Loomis, of Yale, and other scientists were employed by General Myer to examine the reports received at the Bureau for several years, and to deduce therefrom the general laws of storms and other phenomena (like cold waves), which it was desirable to watch and predict. Professor William Ferrel, of the Coast and Geodetic Survey, was one of the experts called into the service of the Bureau either as lecturers or investigators. The success of the new undertaking was largely due to the sagacity and tact with which General Myer enlisted in his service the most competent American meteorologists of the day.

The men who were assigned to the duty of making weather observations at the various stations were also required to take a special course of training at the Government school at Fort Myer, and they were appointed sergeants in the Army. They were instructed in the use and care of the barometer, thermometer,

rain gauge and instruments for measuring the humidity of the air and the velocity of the wind. They were also initiated into the art of telegraphing, so that they could transmit reports over the few wires that belonged exclusively to the Signal Corps. Most of the reports, though, were sent over the ordinary commercial lines.

General William B. Hazen, who succeeded General Myer in 1881, was an excellent executive, and did much to extend the usefulness of the weather service. He was particularly friendly to the organization of State weather services, to work in co-operation with his office.

General Adolphus W. Greely, appointed chief signal officer in 1887, shortly after the death of General Hazen, was the first head of this branch of Uncle Sam's business who was at the same time a good military officer and an accomplished scientist. He had been detached from the 5th Cavalry for service in the Signal Corps at the time when the latter undertook meteorological work, and soon exhibited such a mastery of the subject and such other fitness for the command of the Arctic expedition of 1881-'84 that to him was intrusted that responsible duty. The Fort Conger party was only one of thirteen that were sent out by the leading civilized nations of the world at that time to make simultaneous observations at different posts within the Arctic circle. All the others got back promptly and without harm. But the experiences of the Greely party were exceptional, owing to the failure of the means at first employed for sending food and bringing the men home. The admirable way in which the young commander acquitted himself in that dreadful emergency excited the admiration of the world. Although his duties are now of a military nature only, his administration of the Signal Corps during the last few months has shown him to be a far-sighted, shrewd and energetic officer.

A movement which had been in progress for several years for the transfer of the weather service of the Government from the War Department to the Department of Agriculture culminated July 1, 1891. "Uncle Jerry" Rusk was then looking after the farming interests of the Nation. At his suggestion—or, possibly, that of Assistant Secretary Willets—the Weather Bureau, as a civilian institution, was first committed to Professor Mark W. Harrington, who at that time was editor of a meteorological monthly, and occupied the chair of astronomy and mathematics at Ann Arbor. Mich. Professor Harrington performed his duties to the satisfaction of the Harrison Administration, of the general public and of the scientific element in the country which had wanted the transfer made.

One of the most notable innovations of this period was the abandonment of the military title "sergeant," formerly borne by the observers of the Bureau. This was soon followed by an order authorizing a number of the observers to make predictions of the weather for their own localities. Up to that time no forecasts had been permitted aside from those issued from the central office in Washington. It had been noticed, however, that a familiarity with local peculiarities of the weather sometimes gave a man who was on the spot an advantage over a man hundreds of miles away, even though the latter was better educated. Those observers who were empowered to issue forecasts for their own immediate neighborhoods were called "local forecast officials."

When the Cleveland Administration came in in 1893 efforts were made to oust Professor Harrington, ostensibly for mismanagement of his office. But he fought Secretary Morton so cleverly and bravely that for a time the effort was abandoned. Eventually, though, he was dismissed by the President after having served just four years.

Willis L. Moore, who has been at the head of the Weather Bureau since July 1, 1895, is now forty-three years old. More than twenty years ago he entered the Fort Myer school, and was graduated the second man in a class of thirty men. For about sixteen years he was employed at Washington, and in that period showed much zeal and intelligence. In 1890 he was sent to Minneapolis, and soon became the local forecast official there. Later he was transferred to Milwaukee, where he made surprisingly accurate predictions. Professor Harrington having instituted a competition among the best local forecasters for a \$2,500 professorship, the participants to offer essays on practical forecasting, the Milwaukee man made altogether the best showing and carried off the prize. For a year or so before his appointment as Chief of the Bureau he was stationed in Chicago, and made another phenomenal record in predicting cold waves. Since he took charge in Washington he has done a number of progressive things to improve the service, notably in the way of organizing observations with kites in the upper air.

THE CHURCH'S EASTERN QUESTION.

From The Church Review.

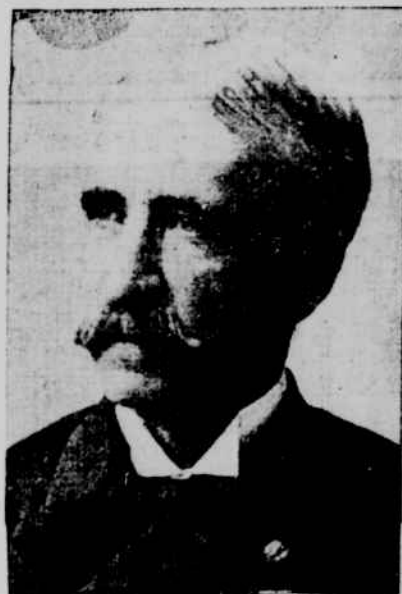
The Eastern question of the Church is a far brighter one than "the Eastern question" of the State. It aims at the healing up of the schism between Eastern and Western Christendom which has weakened the Church for a thousand years—i. e., since the days of Photius. The real fons et origo mali through all these ages has been mainly, as some Eastern Bishops have said, the pride of the Papacy. The Bishop of Rome has asserted an authority over the prelates and patriarchs of the Eastern Church which for one thousand years they have generally refused to accept or to recognize. Nor have recent Popes been more really conciliating than their predecessors. Leo XIII. even has

withdrawn none of the pretensions of the mediæval Popes, and Pius IX. added to them. We need not wonder, then, that the Greek and Russian prelates maintain their old position of protest, the position handed down to them from their spiritual ancestors. If the Orthodox Eastern Church maintained her independence through the Middle Ages and the terrible period of the fall of the Byzantine Empire, we should hardly expect her to submit now when Russia has become one of the greatest Powers in the world, and when the number of the baptized and communicants of the Holy Orthodox Eastern Church is greater (as it is now) than in any former period in history—probably hardly less than a hundred millions of baptized adherents.

CAPTAIN JOHN R. BARTLETT.

THE OFFICER WHO SUCCEEDS REAR-ADMIRAL ERBEN.

Captain John R. Bartlett, United States Navy, who was detailed a week ago to succeed Rear-Admiral Henry Erben as president of the Auxiliary Naval Board, with headquarters at Washington, is an officer who is popular in the entire Navy, and has seen more than the average sea service of line officers. During his entire service on the active list for thirty-eight years he has seen duty in almost every branch of the Navy. He was born in New-York in 1843, and was appointed a midshipman from Rhode Island on November 25, 1859, and was sent to the Naval Academy at once. He remained there until the beginning of the Civil War, and then, upon his own application, got duty on the steam warship



CAPTAIN JOHN R. BARTLETT.

Who succeeds Rear-Admiral Erben as president of the Auxiliary Naval Board.

Mississippi, West Gulf Blockading Squadron. About a year later he was transferred to the Brooklyn, and was at the bombardment and passage of Forts Jackson and St. Philip, Chalmette Batteries and the capture of New-Orleans. He was also in the attack on Vicksburg, in June, 1862.

On September 8, 1863, he was promoted to ensign, and on February 22, 1864, was commissioned as lieutenant, when he was ordered to the steam warship Susquehanna in the North Atlantic Blockading Squadron. On this vessel he was at the bombardment of Fort Fisher, in December, 1864, and was one of the leaders of the assaulting party at the capture of that fort in January, 1865, when his conduct excited favorable comment. He was promoted to lieutenant-commander on July 25, 1866, and continued on sea duty until early in 1867, when he was ordered to the Naval Academy as one of the instructors. In 1869 he went on a special cruise on the frigate Sabine, after which he was ordered to the Tehuantepec and Nicaragua Surveying Expedition, upon which he served nearly two years. Following this he was detailed to special duty in the Ordnance Department, Boston, Mass.; Hydrographic Office, Washington, and Bureau of Equipment at Washington; later he was in charge of the Hydrographic Bureau from 1882 to 1888; commanded the Coast Survey steamer Blake for nearly three years—from 1879 to 1882; commanded the Marion from April, 1891, to December, 1892, and was on special duty from then until May, 1893, when he was ordered to the command of the Atlanta. His promotion to commander was on April 25, 1877, and to captain July 1, 1892. He was put on the retired list on July 12, 1897. In general appearance and carriage he resembles Admirals Ramsey and Dewey, and is one who may be classed as a "born military man and leader."

ADVICE TO THE QUEEN REGENT.

From The St. Paul Pioneer Press.

The Queen of Spain is said to be in despair. Let her emigrate to the United States. We will treat her kindly, admit her boy to the best public schools in the world and give him a chance to grow up and be the father of a possible President, which is decidedly better than being a king.

ANOTHER SYNDICATE.

From The Boston Transcript.

And now comes a story about a syndicate that has captured Venetian palaces, and it is said that tourists to Venice who have secured nice, large tapestry-hung chambers in genuine Renaissance palaces for the small sum of 20 lire or less per week are likely to pay more for their accommodation in future. The syndicate, it is said, was quietly organized in London three years ago, and its average yearly profits have been \$53,915 on a working capital of \$700,000.

INSURANCE IN ICELAND.

AN INTERESTING DEVELOPMENT OF THE SYSTEM AT AN EARLY PERIOD.

From Chambers's Journal.

Centuries before the wise citizens of London recognized the value of fire insurance there existed a most interesting form of it, and that not in any of the great commercial nations of the Middle Ages, but in a remote island of the Atlantic—in Iceland. This fact, remarkable as it is in itself, will not seem so surprising to those who are acquainted with the ancient condition of that country, which has for several hundred years played but a small part in European history. Its first colonists, in the end of the ninth and beginning of the tenth centuries, were among the most enterprising of Norway's sons; and for the next three centuries their new home rivalled the mother country in most respects, and far excelled it in mental activity. The old poetry of Norway dated out about the year 1000 A. D., and from that date, so long as there were skalds at the court of the Norwegian kings, they were law-layers. At the same time they were careful farmers, daring seamen and enterprising traders. They traded regularly with all the neighboring countries, and thought little of an overland journey to Constantinople, where many of them served in the bodyguard of the Byzantine Emperor. At home, next to the necessary care of their herds and flocks, they were above all devoted to poetry, history and law. To be skilled in the latter was a sure title to respect at a time when law books were still unknown, and codes were carried in the head of the "Lawman," or declared by the "Law-speaker," at the meetings of the Althing, or yearly assembly. In the thirteenth century these laws of use and wont came to be written down, not officially, it would seem, as happened in other countries, but by persons interested in legal studies, and they are now preserved in a collection commonly known as Grágás, or gray-goose (a name of doubtful origin, which is used as a general name for the laws of Iceland prior to its union with Norway in 1262).

It is in this collection of laws that the interesting item of compensation for loss by fire occurs, a section which is quoted by the editor of an Icelandic journal of last year, in the first of a series of articles on the ancient civilization of Iceland. The Editor, Dr. Valtýr Guðmundsson, is one of the best authorities on this subject, and uses the quotation as a text to point out to his countrymen the superior foresight of their ancestors in this respect. The modern Icander has not yet realized the value of insurance, as shown by the fact that one of the foremost yeomen in the country had his farm burned down three times in succession without its being insured. It was otherwise in the old days, as Dr. Valtýr points out. In the time of the old republic, the golden age of Iceland, every yeoman-farmer was by law compelled to be a member of a mutual insurance society. The method by which compensation for loss of fire was made is thus explained in Grágás, and is a striking proof of the thoroughly practical views of the old Icelanders.

"There are three houses in every man's dwelling for which compensation may be obtained in event of their being burned down." (In Icelandic dwellings each room was a separate building, and so is called a "house.") "One is the women's sitting-room, another the common sitting-room, and the third a pantry, where the women prepare the food. If a man has both a sitting-room and a hall, then at the spring assembly he shall choose whether he will rather have the sitting-room or the hall insured. If there is a church or chapel on any man's farm, then that is the fourth house liable for compensation, where it exists. If any of these houses aforementioned is burned down, the owner shall summon five of his neighbors, and get them to estimate the damage that has been done. They shall estimate the damage due to the house itself, and also that done to clothes and other valuables burned along with it; but only such clothes and valuables as the owner requires for daily use shall be reckoned for compensation. If a church is burned, then shall be reckoned along with it for compensation all the hangings, the choir, and the bell that has been destroyed, if there was more than one, and all the furniture required for daily use; the same thing shall be done in the case of chapels."

When the damage had been valued by the neighbors, as above provided, one-half of the loss had to be borne by the yeoman himself, and the other half was made good by all the other yeomen in the district. From each of these a certain amount was levied in proportion to the value of his property, and if he were not paid within a specified time it could be seized by law. At the same time it was provided that no one could be called upon to pay as his share more than 1 per cent of his whole property, and it was not compulsory to compensate the same person for loss by fire more than three times.

OL' GIN'RAL WHEELER.

From The Cleveland Plain Dealer.

Ol' Gin'ral Wheeler, he
Clum up a pesky tree
Th' enemy fer to see.

An' high thar on a lim',
Thet warn't too high for him,
He roosted stern and grim.

He eyed things all aroun',
He eyed th' Spanish town,
An' then slid down.

Thar ain't a thing thet's slow
About ol' Fighting Joe;
He's jist checkfull o' go.

An' ef they down him, why,
They'll git up early, aye,
An' git up pesky high!

A SPANISH PRISONER.

From The Boston Transcript.

High o'er his head the starry flag is floating,
But on his breast he wears the saffron gold;
Our prison bars securely close around him,
Though, Migo, friend, the name we have rolled.

But never once he seems to hear the cheering
That greets the story of a victory won;
And cares no whit that we are all rejoicing
When news is brought us of a brave deed done.

He sits apart and sings, with sweetest cadence,
The songs learned long ago in sunny Spain;
We cannot chide him, for we love the rebel,
Our gold canary from the Spanish Main.